

REMARKS

The considered claims, claims 1-14, 16-20, 25-31, 33-34, 56-57, 67-68, 92-93, 95 and 115-116 are pending. Claims 15, 21-24, 32 and 94 are cancelled. Claims 1-14, 16-20, 25, 31, 33, 34, 56-57, 68, 92, 93, 95, 115 and 116 were variously rejected under 35 U.S.C. § 112, second paragraph. Claims 1-14, 25-31, 33, 34, 56, 57, 67, 68, 92, 93, 95, 115 and 116 were variously rejected under 35 U.S.C. § 103(a).

By this amendment, claims 5 and 116 have been amended without prejudice or disclaimer of any previously claimed subject matter. The amendments are made solely to promote prosecution without prejudice or disclaimer of any previously claimed subject matter. With respect to all amendments and cancelled claims, Applicants have not dedicated or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants expressly reserve the right to pursue prosecution of any presently excluded subject matter or claim embodiments in one or more future continuation and/or divisional application(s).

Applicants have carefully considered the points raised in the Office Action and believe that the Examiner's concerns have been addressed as described herein, thereby placing this case into condition for allowance.

Rejection under 35 U.S.C. §112, second paragraph

Claims 1-14, 16-20, 25, 31, 33, 34, 56-57, 68, 92, 93, 95, 115 and 116 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Applicants respectfully traverse this rejection.

The Examiner alleges that “a binding partner that is capable of binding to a moiety to be manipulated” in claims 1 and 56 is vague and indefinite. According to the Examiner, it is unclear where the said binding partner is located within this microdevice.

Applicants respectfully disagree. Claim 1 is directed to a microdevice comprising a substrate, a photorecognizable coding pattern on said substrate and a binding partner that is capable of binding to a moiety to be manipulated. Claim 56 has similar language. Therefore, the binding partner must be part of the microdevice. However, the binding partner can be located at any suitable places on or within the microdevice. For example, the binding partner can be a substance that is coated on the surface of a microdevice of the present invention. Alternatively, the binding partner can be a substance that is incorporated, *e.g.*, microfabricated, into the material composition of the surface layer or bulk structure of the microdevice. (*See* the present specification at page 14, lines 14-20.)

The Examiner alleges that “rectangular parallelepiped (cuboid)” in claim 5 is vague and indefinite. It is allegedly unclear whether the “(cuboid)” is an intended limitation.

This rejection is overcome by the amendment of claim 5.

The Examiner alleges that “a letter or a structure” in claim 116 is vague and indefinite. According to the Examiner, it is unclear as to what “a structure” is.

This rejection is overcome by the amendment of claim 116.

Although Applicants believe that the claims were sufficiently definite when considered in view of the specification and the understanding of those of skill in the art, Applicants have

attempted to respond to the concerns of the Examiner in order to enhance clarity and to facilitate disposition of the present case.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

Rejection under 35 U.S.C. §103

Claims 1-2, 5 and 116 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Chan et al (US 5120662), Tiffany et al. (US 5508200), or Liotta et al. (US 5942407) in view of Dames et al. (WO 00/16893).

It is alleged that the aforementioned prior art, each individually, teaches features recited in the instant invention, including a device comprising a substrate, a photorecognizable coding pattern on the substrate (e.g. bar code), a binding partner capable of binding to a moiety to be manipulated and no need of anodized metal surface layer.

The Examiner, however, acknowledges that no feature of “photorecognizable coding pattern comprising a hole not penetrating through the entire of said substrate” is taught by the above Chan, Tiffany, and Liotta et al. references. Nevertheless, the Examiner alleges that Dames et al. teach a micro-label design to identify analyte of interest in a solution. The Examiner also alleges that Dames et al. teach using a photorecognizable coding pattern on a substrates, i.e. bar code formed by a series of holes on the metal layer. (See page 3, line 26-29)

According to the Examiner, the device taught by Dames et al. provides a low-cost, fast and convenient manner for identifying purposes through flow cytometry reader system, or

fluorescence/imaging microscopy. (See page 2, line 13-15; page 3, line 6-8; claim 14-19). The Examiner alleges that in combination of Dames et al. teaching, i.e. the photorecognizable bar code having holes on the micro-label device, with the references of Chan, Liotta or Tiffany, the bar code would attach on a substrate not penetrating through the depth of the substrate. (See Figure 11 in Chan et al.; Figure 2 in Tiffany; Figure 5 in Liotta). The Examiner further alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided either the device of Chan, Liotta or Tiffany with the photorecognizable bar code as taught by Dames et al. for low-cost and convenient identifying analyte of interest in a test sample.

This rejection is respectfully traversed. The Examiner relied on Dames et al. to teach the limitation “photorecognizable coding pattern comprising a hole not penetrating through the entire of said substrate.” The Examiner relied on the combination of Dames et al. with other cited references to arrive at the presently claimed invention. However, such a combination is not permissible here.

It is a well established principle that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). In *In re Ratti*, the claims in suit were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casting. The reference taught the device required rigidity for operation, whereas the claimed invention required resiliency. The Court reversed the rejection holding the “suggested combination of references would require a substantial reconstruction and redesign of the elements

shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.” 270 F.2d at 813, 123 USPQ at 352.

The combination of Dames et al. with other cited references, as proposed by the Examiner, would also require a change in the basic principle under which the Dames et al.’s devices were designed to operate. Dames et al. teaches a system for carrying out parallel bioassays. Microfabricated labels are made to each carry a biochemical test, many different labels are mixed together with an analyte sample. A device that reads the individual labels isolates the results of the individual tests. The microfabricated labels have a surface layer of anodized metal. (See the present specification at page 2, lines 10-14; Dames et al. at page 2, lines 27-30, and claim 1.) The binding reactions to be tested by Dames et al.’s systems involve protein bindings. (See Dames et al. at page 4, lines 10-12.) According to Dames et al., having a surface layer of anodized metal is important for its test systems. (See Dames et al. at page 6, lines 6-11.) In contrast, the presently claimed invention specifically recites “said microdevice does not comprise an anodized metal surface layer.” (See present claims 1, 56 and 67.) Therefore, combining Dames et al. with other cited references, as proposed by the Examiner, to arrive at the presently claimed invention, would remove the surface layer of anodized metal from Dames et al.’s microfabricated labels. This is impermissible because it would require a change in the basic principle under which the Dames et al.’s devices were designed to operate.

Claims 1-6, 11, 16-20, 25-29, 31, 33-34, 56-57, 67-68, 92, 95, 115, and 116 were rejected under 35 U.S.C. §102(3) as allegedly being unpatentable by Cattell (US 6,180,351) in view of Dames et al.

Applicants also respectfully traverse this rejection. The Examiner also recognizes that Cattell does not teach the limitation “photorecognizable coding pattern comprising a hole not

penetrating through the entire of said substrate.” The Examiner combines Cattell with Dames et al. to arrive at the presently claimed invention. Applicants respectfully submit that such a combination is not permissible as discussed above.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Cattell.

Applicants also respectfully traverse this rejection. If Cattell is used alone as the basis for this rejection, Cattell does not teach the limitation “photorecognizable coding pattern comprising a hole not penetrating through the entire of said substrate.” In contrast, claims 7-10 contain such a limitation via dependence on claim 1. If Cattell is combined with Dames et al., Applicants respectfully submit that such a combination is not permissible as discussed above.

Claims 12-14,30 and 93 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Cattell in view of Zhou et al. (WO 0054882).

Applicants also respectfully traverse this rejection. If only Cattell and Zhou are used as the basis for this rejection, neither Cattell nor teaches the limitation “photorecognizable coding pattern comprising a hole not penetrating through the entire of said substrate.” In contrast, claims 12-14, 30 and 93 contain such a limitation via dependence on claim 1. If Cattell and Zhou are combined with Dames et al., Applicants respectfully submit that such a combination is not permissible as discussed above.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §103.

CONCLUSION

Applicants believe that all issues raised in the Office Action have been properly addressed in this response. Accordingly, reconsideration and allowance of the pending claims is respectfully requested. If the Examiner feels that a telephone interview would serve to facilitate resolution of any outstanding issues, the Examiner is encouraged to contact Applicants' representative at the telephone number below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 471842000500.

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Respectfully submitted,

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